



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,851	09/04/2003	Gerald W. Blakeley III	16813-00018	5273

7590 07/20/2004

Brian M. Dingman
Mirick, O'Connell, DeMallie & Lougee, LLP
1700 West Park Drive
Westborough, MA 01581-3941

EXAMINER

PRUCHNIC, STANLEY J

ART UNIT	PAPER NUMBER
----------	--------------

2859

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/654,851	Applicant(s) BLAKELEY, GERALD W.	
	Examiner Stanley J. Pruchnic, Jr.	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application, by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

the declaration filed 04 September 2003 incorrectly identifies the United States provisional application for which Applicant has claimed the benefit under 35 U.S.C. Section 119(e) as "09/415,909". The provisional application serial number is --60/415,909--.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 9, 14-16, 19 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollander *et al.* (U. S. Pat. No. 6,095,682, hereinafter **HOLLANDER**).

HOLLANDER discloses a (digital) multimeter 1 (e.g., see Fig. 1) with non-contact temperature measurement capability as claimed by Applicant in Claims 1-5, 9, 14-16, 19 and 23, comprising:

a multimeter 1 contained in a housing and having outputs relating to measured electrical parameters (Col. 5, Lines 27-31);

an (digital) output display 2 (Col. 5, Lines 12-13) contained in the housing, for displaying results to a user;

a non-contact optically-based (infrared) temperature sensing device (Col. 5, Lines 22-25) coupled to (**HOLLANDER** discloses the device is “built-in” so it is both “coupled to” the housing as claimed by Applicant in Claim 1 and “within” the housing as claimed by Applicant in Claim 19), having an output related to sensed temperature; and circuitry (e.g., Col. 12, Lines 58-65) contained in the housing for processing both the multimeter outputs and the temperature sensing device output, and transmitting (Col. 5, Lines) the processed output to the output display as claimed by Applicant in ***Claims 1-3 and 19.***

Regarding Claim 4: **HOLLANDER** further discloses the multimeter with non-contact temperature measurement capability in which the temperature sensing device further comprises a lens 113, proximate the infrared sensor, for focusing entering radiation (Col. 6, Lines 19-26) and this would also inherently function as claimed for protecting the infrared sensor as claimed by Applicant.

Regarding Claim 5: **HOLLANDER** further discloses the temperature sensing device defines a sense axis that is fixed relative to the housing, as claimed by Applicant, (Col. 5, Lines 27-31) which permits the user to aim the pyrometer towards a target.

Regarding Claims 9 and 23: **HOLLANDER** further discloses an optical aiming device 104 coupled to the housing, to assist the user in aiming the temperature sensing device at an object whose temperature is to be measured.

Regarding Claims 14-15: **HOLLANDER** further discloses the multimeter 901 further comprising a switch 907 (which is a user-operable electrical device; Fig. 28; Col. 15, Lines 53-62) for switching at least some of the circuitry between the multimeter

outputs and the temperature sensing device output; and for selectively routing the temperature sensing device output to the circuitry.

Regarding Claim 16: **HOLLANDER** further discloses a user-operable electrical device for selectively holding (in data logger 819, for example; Col. 15, Lines 1-6) the sensed temperature as claimed by Applicant.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 6-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER** in view of **BARTOSIAK et al.** (U. S. Pat. No. 5,011,296, hereinafter **BARTOSIAK**).

HOLLANDER, to summarize, discloses all the limitations as claimed by Applicant in **Claims 6-8** as described above in Paragraph 3 as applied to Claims 1-5, 9, 14-16, 19 and 23 including a temperature sensing device coupled to the housing (as claimed by

Art Unit: 2859

Applicant in Claim 1) having a sense axis directed toward the IR sensing element (detector). **HOLLANDER** does not explicitly disclose that the sense axis is **adjustable** relative to the housing, as claimed by Applicant in Claim 6; and **mounted in a mount that is coupled to and movable** relative to the housing as claimed by Applicant in Claim 7; and **rotatably coupled** to the housing as claimed by Applicant in Claim 8.

BARTOSIAK discloses a remote pickup head 12, part of an infrared thermometer, rotatably coupled to a mount 28 (housing 28 of sensor head 20; see Figs. 2A, 2D; Col. 3, Lines 28-35) by threaded cable connector 31, whereby the sense axis (of pickup head 12) is coupled to and movable relative to the housing 28.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the remote pickup head with adjustable sense axis for the sense axis fixed to the housing of **HOLLANDER** in order to provide for remote measurement of high temperature processes (Col. 3, Lines 1-11) as taught by BARTOSIAK.

7. **Claims 20-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER** in view of **ANDERSON et al.** (U. S. Pat. No. 4,045,670, hereinafter **ANDERSON**).

HOLLANDER, to summarize, discloses all the limitations as claimed by Applicant in **Claims 20-22** as described above in Paragraph 3 as applied to Claims 1-5, 9, 14-16, 19 and 23 including a temperature sensing device within to the housing (as claimed by Applicant in Claim 19) having a sense axis directed toward the IR sensing element (detector). **HOLLANDER** does not explicitly disclose that the sense axis is **adjustable** relative to the housing, as claimed by Applicant in Claim 20; and **mounted in a mount**

that is coupled to and movable relative to the housing as claimed by Applicant in Claims 21; and **rotatably coupled** to the housing as claimed by Applicant in Claim 22.

ANDERSON discloses IR detector 49 (See Figs. 1-2), mounted in a bracket (in phantom in Fig. 1) by a screw, as shown in Fig. 2. ANDERSON discloses or suggests that the sensing axis of the IR detector 49 is directed through the center of lens 19 by means of dichroic mirror 47 (Col. 3, Lines 5-24), and parallel to the housing cover 13.

ANDERSON is evidence that ordinary workers in the field of infrared temperature sensors would recognize the benefit of using an rotatably coupled adjustable mount for coupling the IR detector to the housing as suggested by ANDERSON for the IR detector and housing of HOLLANDER in order to align the sensing axis to be parallel to the housing cover 13 in order to enable more intuitive aiming of the device, as is commonly done in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the adjustable mount for IR detector forming the sense axis of HOLLANDER in order to provide a more intuitive 1st approximation of aiming of the device as suggested by ANDERSON.

8. Claims 10-12 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER** in view of LITVIN *et al.* (U. S. Pat. No. 5,626,424, hereinafter **LITVIN**).

HOLLANDER, to summarize, discloses all the limitations as claimed by Applicant in **Claims 10-12 and 24-26** as described above in Paragraph 3 as applied to Claims 1-5, 9, 14-16, 19 and 23 including an aiming axis. **HOLLANDER** does not explicitly disclose that the aiming axis is **adjustable** relative to the housing as claimed by

Applicant in Claims 10 and 24; in which the optical aiming device is ***mounted in a mount that is coupled to and movable*** relative to the housing, to allow the user to aim the optical aiming device as claimed by Applicant in Claims 11 and 25; and in which the optical aiming device mount is ***rotatably coupled to the housing*** as claimed by Applicant in Claims 12 and 26.

LITVIN discloses an adjustable beam alignment system for a non-contact infrared temperature-measuring unit, including beam splitter assembly 20 (See Figs. 1-2) having a beam splitter housing 21. The beam splitter housing 21 is a mount that is rotatably coupled to and movable relative to the housing of the infrared temperature-measuring unit, which functions to make the aiming axis (laser beams 62 and 64) ***adjustable*** relative to the housing, for example, by adjusting mirror element 40 (Col. 2, Line 42 - Col. 3, Line 28).

LITVIN further discloses that it is advantageous to adjust the aiming axis in order to benefit from enabling the operator to accurately position the sensor so the IR radiation from the target 60 is focused on the IR detector 16 (Col. 2, Lines 1-6).

LITVIN is evidence that ordinary workers in the field of aiming systems for infrared temperature measuring devices would recognize the benefit of using the adjustable aiming device including mount rotatably coupled to the housing as taught by LITVIN for the laser aiming system of HOLLANDER in order to more accurately position the sensor.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the adjustable aiming device including

mount rotatably coupled to the housing for the laser aiming system of **HOLLANDER** in order to ore accurately position the sensor as taught by **LITVIN**.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER** in view of **AOYAMA et al.** (U. S. Pat. No. 6,280,082, hereinafter **AOYAMA**).

HOLLANDER, to summarize, discloses all the limitations as claimed by Applicant in Claim 13, as described above in Paragraph 3 as applied to Claims 1-5, 9, 14-16, 19 and 23, further including the limitation that the optical aiming device comprises a laser device (Col. 10, Lines 46-52). But **HOLLANDER** does not explicitly disclose the optical aiming device comprises a diode laser device as claimed by Applicant.

AOYAMA teaches it is known in the art to use a laser diode in a light projecting optical aiming device for an infrared thermometer (Col. 5, Lines 48-54; Col. 6, Line 52 - Col. 7, Line 15), e.g., "The light emitter 13 includes a laser diode or the like, and outputs a laser beam in a visible spectrum along an optical axis L2. The condenser lens 14 makes the visible light output from the light emitter 13 parallel with the optical axis L2."

AOYAMA is evidence that ordinary workers in the field of aiming systems for infrared temperature measuring devices would recognize the benefit of using a diode laser as taught by **AOYAMA** for the laser of **HOLLANDER** in order to enable pulsed operation providing lower average luminance level for safety but higher brightness for visibility (Col. 6, Line 52 - Col. 7, Line 15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a laser diode for the laser of **HOLLANDER** in order to provide higher visibility with safety as taught by **AOYAMA**.

10. Claims 17-18 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER** in view of **WADMAN** (U. S. Pat. No. 5,460,451).

HOLLANDER, to summarize, discloses all the limitations as claimed by Applicant in Claims 17-18 and 27-28, as described above in Paragraph 3 as applied to Claims 1-5, 9, 14-16, 19 and 23 further including circuitry that determines the sensed temperature based on the output of the temperature sensing device using a control 9 for variation of the emissivity factor; and **HOLLANDER** discloses that emissivity is adjustable from 0.1 to 1 (Col. 5, Lines 24-41), so **HOLLANDER** discloses the emissivity is less than or equal to one. **HOLLANDER** as described above, does not disclose using a fixed emissivity in which the fixed emissivity is less than one as claimed by Applicant.

WADMAN discloses emissivity has a constant value in many processes, consequently its value is to be determined only once (Col. 1, Lines 19-46).

WADMAN is evidence that ordinary workers in the field of temperature measurement would recognize the benefit of using a fixed value for emissivity as taught by **WADMAN** for the adjustable value of **HOLLANDER** in order to simplify the operation of the device, in accordance with conditions of the particular application, *i.e.*, the intended use.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a fixed emissivity value for the adjustable value of **HOLLANDER** in order to simplify the operation of the device as suggested by **WADMAN**.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related temperature measurement devices and methods

- Fujima (US 5860740) teaches having predetermined values of emissivity;
- Christol et al (US 4634294) requires an emissivity input;
- U. S. Patents 4743122 and RE34507 disclose peak hold circuits;
- U. S. Patent 4986672 discloses structure forming a sense axis and discloses use of a predetermined emissivity; and
- U. S. Patents 5836694 and 6234669 disclose laser-aiming structures.

Art Unit: 2859

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday) from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached at **(571) 272-2245**.

The **Official FAX** number for Technology Center 2800 is **(703) 872-9306** for **all official communications**.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **<http://www.uspto.gov/>** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: **ebc@uspto.gov**. Additional information is available on the Patent EBC Web site at: **<http://www.uspto.gov/ebc/index.html>**.



**DIEGO F. F. GUTIERREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**



**Stanley J. Pruchnic, Jr.
7/15/04**